

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~The use of~~ A method of using as a main component, base component or additional component in radiation-curing coating materials, adhesives, inks, including printing inks, polishes, varnishes, pigment pastes and masterbatches, fillers, sealants and insulants and/or cosmetic articles a radiation-curable resin essentially comprising at least one of

- A) ~~at least one~~ a carbonyl-hydrogenated ketone-aldehyde resin ~~and/or~~ and
  - B) ~~at least one~~ a ring-hydrogenated phenol-aldehyde resin
- and
- C) at least one compound comprising at least one ethylenically unsaturated moiety having ~~at the same time~~ at least one moiety which is reactive toward A) and/or B);
- ~~as a main component, base component or additional component in radiation-curing coating materials, adhesives, inks, including printing inks, polishes, varnishes, pigment pastes and masterbatches, fillers, sealants and insulants and/or cosmetic articles.~~

Claim 2 (Currently Amended): ~~The use of~~ A method of using as a main component, base component or additional component in radiation-curing coating materials, adhesives, inks, including printing inks, polishes, varnishes, pigment pastes and masterbatches, fillers, sealants and insulants and/or cosmetic articles a radiation-curable resin obtained by polymer-analogously reacting at least one of

- A) ~~at least one~~ a carbonyl-hydrogenated ketone-aldehyde resin ~~and/or~~ and
  - B) ~~at least one~~ a ring-hydrogenated phenol-aldehyde resin
- with

C) at least one compound comprising at least one ethylenically unsaturated moiety and ~~at the same time at least one moiety which is reactive toward A) and/or B),~~  
~~as a main component, base component or additional component in radiation-~~  
~~curing coating materials, adhesives, inks, including printing inks, polishes, varnishes,~~  
~~pigment pastes and masterbatches, fillers, sealants and insulants and/or cosmetic~~  
~~articles.~~

Claim 3 (Currently Amended): ~~The use of a radiation curable resin method~~ as claimed in claim 1 ~~or 2~~, obtained by polymer-analogously reacting at least one of

A) ~~at least one~~ a carbonyl-hydrogenated ketone-aldehyde resin ~~and/or and~~

B) ~~at least one~~ a ring-hydrogenated phenol-aldehyde resin

with

C) at least one compound comprising at least one ethylenically unsaturated moiety and ~~at the same time at least one moiety which is reactive toward A) and/or B),~~  
and at least one ~~further~~ hydroxyl-functionalized polymer.

Claim 4 (Currently Amended): ~~The use of a radiation curable resin method~~ as claimed in claim 3, wherein said hydroxy-functionalized polymers are selected from the group consisting of polyethers, polyesters and/or polyacrylate ~~are used as further hydroxy-functional polymers polyacrylates.~~

Claim 5 (Currently Amended): ~~The use of a radiation curable resin method~~ as claimed in claim 3 ~~or 4~~, wherein mixtures of ~~the further~~ said hydroxy-functionalized polymers with the ketone-aldehyde resins A) and/or phenol-aldehyde resins B) are reacted polymer-analogously with component C).

Claim 6 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 3 ~~to 5~~, wherein ~~first of all~~ adducts of the ketone-aldehyde resins A) and/or phenol-aldehyde resins B) with ~~the further said~~ hydroxy-functionalized polymers, using comprising suitable di- and/or triisocyanates, are initially prepared, and these adducts are then thereafter reacted polymer-analogously with component C).

Claim 7 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein the ketone of component A) comprises C-H-acidic ketones ~~are used in component A)~~.

Claim 8 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein the starting compounds, alone or in mixtures, in the carbonyl hydrogenated ketone aldehyde resins of component A) are ketones selected from the group consisting of acetone, acetophenone, methyl ethyl ketone, heptan-2-one, pentan-3-one, methyl isobutyl ketone, tert-butyl methyl ketone, cyclopentanone, cyclododecanone, mixtures of 2,2,4- and 2,4,4-trimethylcyclopentanone, cycloheptanone, cyclooctanone, and cyclohexanone ~~are used as starting compounds, alone or in mixtures, in the carbonyl hydrogenated ketone aldehyde resins of component A)~~.

Claim 9 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein the starting compounds, alone or in mixtures, in the carbonyl hydrogenated ketone aldehyde resins of component A) are alkyl-substituted cyclohexanones having one or more alkyl radicals containing in total 1 to 8 carbon atoms ~~are used, individually or in a mixture, in the carbonyl hydrogenated ketone aldehyde resins of component A)~~.

Claim 10 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 9, wherein said alkyl-substituted cyclohexanones are selected from the group consisting of 4-tert-amylcyclohexanone, 2-sec-butylcyclohexanone, 2-tert-butylcyclohexanone, 4-tert-butylcyclohexanone, 2-methylcyclohexanone, and 3,3,5-trimethylcyclohexanone ~~are used in the carbonyl hydrogenated ketone-aldehyde resins of component A).~~

Claim 11 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein the ketone component of the carbonyl-hydrogenated ketone-aldehyde resins in component A) are selected from the group consisting of acetophenone, cyclohexanone, 4-tert-butylcyclohexanone, 3,3,5-trimethylcyclohexanone, and heptanone, alone or in a mixture, ~~are used in the carbonyl hydrogenated ketone-aldehyde resins of component A).~~

Claim 12 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein the aldehyde component of the carbonyl-hydrogenated ketone-aldehyde resins in component A) is selected from the group consisting of formaldehyde, acetaldehyde, n-butyraldehyde and/or isobutyraldehyde, valeraldehyde, and dodecanal, alone or in mixtures, ~~are used as aldehyde component of the carbonyl hydrogenated ketone-aldehyde resins in component A).~~

Claim 13 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 12, wherein the aldehyde component of the carbonyl-hydrogenated ketone-aldehyde resins in component A) is formaldehyde and/or paraformaldehyde and/or trioxane ~~are used as aldehyde component of the carbonyl hydrogenated ketone-aldehyde resins in component A).~~

Claim 14 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 1, ~~2 or 3~~, wherein component A) comprises hydrogenation products of the resins formed from formaldehyde and a ketone selected from the group consisting of acetophenone, cyclohexanone, 4-tert-butylcyclohexanone, 3,3,5-trimethylcyclohexanone, and heptanone, alone or in a mixture, ~~and formaldehyde as component A) are used.~~

Claim 15 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~any one of the preceding claims~~ claim 1, wherein the aldehydes of the ring-hydrogenated phenol-aldehyde resins of component B] are selected from the group consisting of formaldehyde, butyraldehyde and/or benzaldehyde ~~are used in the ring-hydrogenated phenol-aldehyde resins (component B).~~

Claim 16 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~any one of the preceding claims~~ claim 1, wherein nonhydrogenated phenol-aldehyde resins are used to a minor extent.

Claim 17 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~any one of the preceding claims~~ claim 1, wherein component B) comprises ring-hydrogenated resins based on alkyl-substituted phenols ~~are used in component B).~~

Claim 18 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 17, wherein said alkyl-substituted phenols are selected from the group consisting of 4-tert-butylphenol, 4-amylphenol, nonylphenol, tert-octylphenol, dodecylphenol, cresol, xylenols, and bisphenols, alone or in mixtures, ~~are used.~~

Claim 19 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein ~~maleic acid is used as component C)~~ comprises maleic acid.

Claim 20 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein component C) comprises (meth)acrylic acid and/or its derivatives ~~are used as component C)~~.

Claim 21 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 20, wherein component C) comprises (meth)acryloyl chloride, glycidyl (meth)acrylate, (meth)acrylic acid and/or the low molecular mass alkyl esters and/or anhydrides thereof, alone or in a mixture, ~~are used as component C)~~.

Claim 22 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein component C) comprises isocyanates which possess an ethylenically unsaturated moiety, preferably selected from the group consisting of (meth)acryloyl isocyanate,  $\alpha,\alpha$ -dimethyl-3-isopropenylbenzyl isocyanate, (meth)acryloylalkyl isocyanate with alkyl spacers possessing 1 to 12, ~~preferably 2 to 8, more preferably 2 to 6~~ carbon atoms, preferably methacryloylethyl isocyanate and/or methacryloylbutyl isocyanate, ~~are used as component C)~~.

Claim 23 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein component C) comprises reaction products of hydroxyalkyl (meth)acrylates whose alkyl spacers possess 1 to 12, ~~preferably 2 to 8, more preferably 2 to 6~~ carbon atoms with diisocyanates ~~are used as component C)~~.

Claim 24 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in claim 23, wherein said diisocyanates are selected from the group consisting of cyclohexane diisocyanate, methylcyclohexane diisocyanate, ethylcyclohexane diisocyanate, propylcyclohexane diisocyanate, methyldiethylcyclohexane diisocyanate, phenylene diisocyanate, tolylene diisocyanate, bis(isocyanatophenyl)methane, propane diisocyanate, butane diisocyanate, pentane diisocyanate, hexane diisocyanate such as, for example, hexamethylene diisocyanate (HDI) or 1,5-diisocyanato-2-methylpentane (MPDI), heptane diisocyanate, octane diisocyanate, 1,6-diisocyanato-2,4,4-trimethylhexane, 1,6-diisocyanato-2,2,4-trimethylhexane (TMDI), 4-isocyanatomethyloctane 1,8-diisocyanate (TIN), decane di- and triisocyanate, undecane di- and triisocyanate, dodecane di- and triisocyanates, isophorone diisocyanate (IPDI), bis(isocyanatomethylcyclohexyl)methane (H<sub>12</sub>MDI), isocyanatomethylmethylcyclohexyl isocyanate, 2,5(2,6)-bis(isocyanatomethyl)-bicyclo[2.2.1]heptane (NBDI), 1,3-bis(isocyanatomethyl)cyclohexane (1,3-H<sub>6</sub>-XDI), 1,4-bis(isocyanatomethyl)cyclohexane (1,4-H<sub>6</sub>-XDI), alone or in mixtures, ~~are used~~.

Claim 25 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in claim 24, wherein said diisocyanates are polyisocyanates prepared by trimerizing, allophanatizing, biuretizing and/or urethaneizing simple diisocyanates ~~are used~~.

Claim 26 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein component C) comprises the reaction products in a molar ratio of 1:1 of hydroxyethyl acrylate and/or hydroxyethyl methacrylate with isophorone diisocyanate and/or H<sub>12</sub>MDI and/or HDI ~~are used as component C)~~.

Claim 27 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein said radiation-curable resin comprises 1 mol of the carbonyl-hydrogenated ketone-aldehyde resin and/or ring-hydrogenated phenol-aldehyde resin,  $[[ - ]]$  based on  $M_{n_1}$   $[[ - ]]$  and from 0.5 to 15 mol, preferably from 1 to 10 mol, in particular from 2 to 8 mol of the unsaturated compound ~~are~~ used.

Claim 28 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein said radiation-curable resin is employed as a main, base or additional component in radiation-curing coating materials, such as primers, surfacers, basecoat materials, topcoat materials, and clearcoat materials and ~~also~~ in radiation-curing adhesives, inks, including printing inks, polishes, varnishes, pigment pastes and masterbatches, fillers, cosmetic articles and/or sealants and insulants.

Claim 29 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1 wherein said radiation-curable resin substitutes for metals, plastics, wood, paper, textiles, and glass and ~~also~~ mineral substrates.

Claim 30 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein ~~further~~ additional oligomers and/or polymers are present.

Claim 31 (Currently Amended): The ~~use of a radiation-curable resin method~~ as claimed in claim 30, wherein ~~further~~ said oligomers and/or polymers are selected from the group consisting of polyurethanes, polyesters, polyacrylates, polyolefins, natural resins,



epoxy resins, silicone oils and silicone resins, amine resins, fluoro polymers and derivatives thereof are present, alone or in combination.

Claim 32 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in ~~at least one of the preceding claims~~ claim 1, wherein auxiliaries and additives are present.

Claim 33 (Currently Amended): The ~~use of a radiation curable resin method~~ as claimed in claim 32, wherein said auxiliaries and additives are selected from the group consisting of inhibitors, organic solvents, with or without unsaturated moieties, surface-active substances, oxygen scavengers and/or free-radical scavengers, catalysts, light stabilizers, color brighteners, photoinitiators, photosensitizers, thixotropic agents, antiskinning agents, defoamers, dyes, pigments, fillers and/or dulling agents ~~are present~~.